

# A POPULAR TREATISE ON THE COMMON INDIAN SNAKES.

ILLUSTRATED BY COLOURED PLATES AND DIAGRAMS

BY

MAJOR F. WALL, I.M.S., F.L.S., C.M.Z.S.

*Part XXIII (with Plate XXIII, Diagram and Map.)*

*(Continued from page 43 of Volume XXIII.)*

Family—COLUBRIDÆ.

*COLUBER RADIATUS.*

THE COPPER-HEADED RAT-SNAKE.

*History.*—The first mention of this snake in literature is by Russell who figured it in his Second Volume published in 1801. The plate (XLII) is an excellent one taken from a specimen received by him from Java. In 1837 Schlegel figured it, and christened it. Since then almost every herpetologist writing on Asiatic snakes has referred to it.

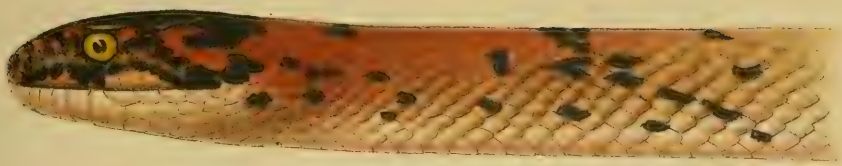
*Nomenclature*—(a) *Scientific.*—The generic name introduced by Linné in 1766 is from the Latin “coluber,” a word applied indiscriminately to any snake. “Radiatus,” from the Latin implying “radiating,” emanated from Schlegel, and refers to the three black lines that radiate from the eye like the spokes of a wheel.

(b) *English.*—The copper-headed rat-snake suggests itself to me as distinctive, and appropriate.

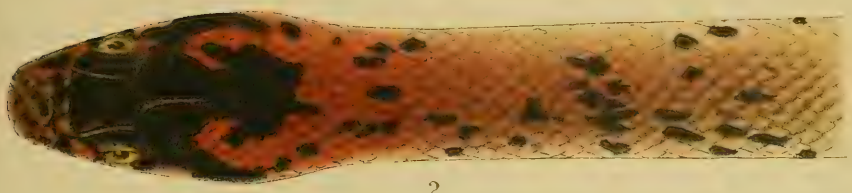
(c) *Vernacular.*—In Upper Assam (Dibrugarh) I heard it called “goom phitti.”

*General characters.*—This is a handsome species of moderately large proportions, ornamental in colouring, and distinctive in its markings. The head is moderately elongate, smooth, and evenly rounded from side to side, showing little evidence of a canthus rostralis. The snout is obtuse. The eye is moderate in size and the iris golden or golden brown especially towards its pupillary margin. The nostril is deep vertically and occupies the whole suture between the anterior and posterior nasal shields. The tongue is pale at the base, and has black tips. The body is elegant in form and distinctly compressed, its surface ribbed longitudinally with keels. The tail is round in section, and moderately long, being about one-sixth the total length.

*Colour.*—The head in life is a copper colour, or dull orange, and this tone merges to a duller one at the neck. A transverse black stripe passes across the head at the posterior limit of the parietal shields. This sends black limbs forwards to the eyes, and frequent-



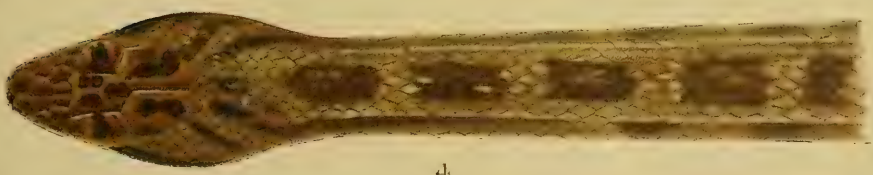
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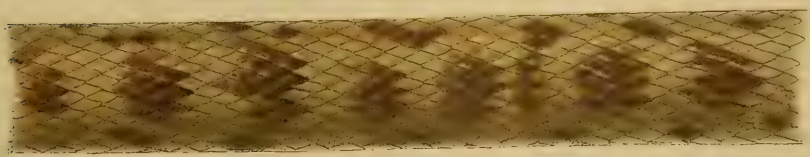
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P. Gerhardt del.

J. Green, Chromo.

THE COMMON INDIAN SNAKES. (Wall)

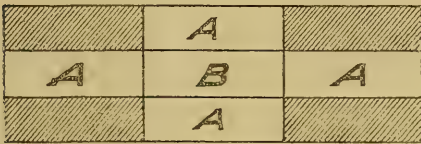
1-3. *Zamenis diadema*, var. *atriceps*, harmless.

4-6. " " " *typica*, harmless.

*all nat. size.*

ly two black limbs backwards which pass for some distance down the back. The ends of the transverse stripe turn backwards, and are continued as stripes down the back parallel to the median, and thicker stripes just referred to. Two short black streaks pass from the eyes, one downwards, and one obliquely backwards.

Anteriorly the body is adorned with black longitudinal stripes, usually three in number on each side, and progressively narrowing from above downwards; the lowest usually more or less interrupted being placed near the edge of the ventrals. The median are usually connected with the black collar but may commence further back as in our plate. These black marks are very faintly visible in the cast skin. The ground colour is yellowish, brownish, ruddy brown, or leaden grey vertebrally, merging to lighter tones in the flanks. The skin anteriorly is chequered as shown diagrammatically in the attached figure. The shaded oblongs are black,



oblongs A are a pale blue-grey, and oblong B bright yellow. The effect is very striking when the snake under excitements inflates itself, and reveals these hues.

Posteriorly the body loses its black stripes, and is uniformly light-yellowish, brownish or leaden grey dorsally, merging to lighter tones in the flanks. The belly is whitish, or pale yellowish often more or less obscurely mottled with greyish especially posteriorly, and beneath the tail. The young are coloured and marked exactly like adults.

*Dimensions.*—Adults usually vary from five to six feet. My largest of 32 measured specimens was a ♀ 6 feet and  $\frac{5}{8}$  of an inch. Stoliczka had one  $6\frac{1}{2}$  feet long in the Sikkim Terai, Mr. Frere wrote to me of one he got in Tharrawaddy 6 feet 10 inches long, and the Revd. C. Leigh wrote to me of one he captured at Kurseong exactly 7 feet.

*Identification.*—Attention must be paid to the following points which must coexist. (1) Scales in 19 rows anteriorly (two head-lengths behind head), 19 rows in midbody, and 17 posteriorly (two head-lengths before vent). Median rows with keels. (2) An entire anal shield. (3) Ventrals 224 to 250. (4) Subcaudals 83 to 106. (5) A black transverse mark on the back of the head. I know of no simpler method of identification.

*Haunts.*—Its favorite haunts appear to be in open fields near jungle, but it will wander anywhere in search of food. It will take to the water readily, and swims actively, and strongly even in a swiftly flowing river in flood. In Rangoon one was brought to me that had taken up its quarters in a bullock cart, in which it was

found coiled up asleep. It is not unusual for it to come into habitations, and as its sole purpose is probably to hunt rats, it should be encouraged as a benefactor.

*Disposition and Habits.*—Without being an aggressive snake, it is certainly a plucky one that will strike, and strike viciously when suddenly encountered, or driven into an uncomfortable situation. At such times it will erect the forebody, and strongly compress the neck, forming a sort of pouch in the throat, just as the common rat-snake (*Zamenis mucosus*) does. I have little doubt that it emits the same warning snoring sound, though I have not actually heard this. It is very active, and difficult to capture alive usually menacing with such determination that its would-be captor hesitates to seize it, and finds by his hesitation his chance has gone. It is a remarkable fact that of all the fifty odd specimens I have had, one only was less than  $3\frac{1}{2}$  feet. It would seem that the young are specially active, and able to evade danger.

*Food.*—It seems to feed exclusively on mammals, and especially rats. I have on two occasions found a large rat in the stomach, and once four blind and callous offspring almost certainly belonging to a rat. At other times I have found mammalian hair in the stomach or intestine, that suggested a murine victim.

*The sexes.*—My notes leave much to be desired in this direction. Of 25 sexed in Assam 18 proved to be females. As regards size my notes make it appear that the sexes grow to the same length. There seems no special difference in the length of the tail in the sexes, unlike what is usual in other species. The anal glands secrete an ochraceous coloured matter.

*Breeding.*—I have had seven gravid females in the months of April, May, June and July. On the 27th April one year in Assam, two were seen playing with one another (flirting), and killed. The female was found to be in an advanced stage of gestation, showing as I have frequently remarked before with other snakes, that conjugal attachment continues for some time after the initial act of mating. The species is not nearly so prolific as many snakes. I never found more than twelve eggs developing in the abdomen, and on one occasion there were only five. Cantor however records one with twenty-three eggs. The largest eggs I measured were  $2\frac{1}{16}$  inches long.

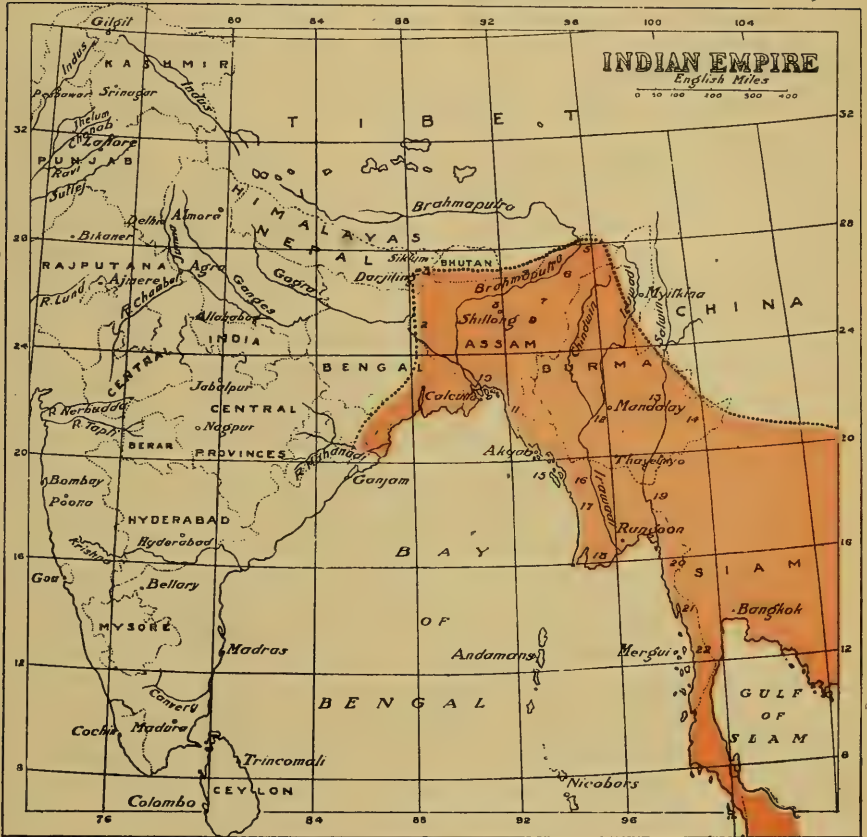
*Growth.*—Having had so few small specimens I am unable to estimate the annual growth.

*Parasites.*—In one specimen killed in water I found two leeches in the mouth. I have frequently found in the abdomen small white parasites, which were pronounced larval forms of a tapeworm of the genus *Pterocercus* by Professor Von Linstow.

*Distribution.*—Bengal, Eastern Himalayas, Assam, Burma, Siam, Cochin-China, South China, Malay Peninsula, Sumatra and Java.



Distribution of *Coluber radiatus*.



..... limits of distribution uncertain.

1 Cuttack (Annandale), 2 Buxa Doars (F. W.), 3 Darjeeling District (B. M. & F. W.), 4 Dibrugarh District (F. W.), 5 Sadiya (F. W.), 6 Sibsagar (I. M.), 7 Sama-guting (I. M.), 8 Shillong (F. W.), 9 Cachar (I. M.), 10 Bakerganj (Selater), 11 Chittagong (I. M. & F. W.), 12 Myingyan (Wall and Evans), 13 Mandalay (I. M.), 14 Taomgyya (Wall and Evans), Fort Stedman (B. M.), 15 Ramri Island (I. M.), 16 Prome (Wall and Evans), 17 Pegu (I. M.), 18 Rangoon District (Wall and Evans), 19 Toungoo (B. M.), 20 Moulmein (I. M.), 21 Tavoy (I. M.), 22 Mergui (B. M. and I. M.)\*

B. M. implies British Museum ; I. M. Indian Museum ; F. W. the author.

\* I am almost certain I have seen a young specimen in the Western Himalayas (Ranibagh, Almora District, Circa 2,000 feet). It had its head protruding from a hole in a stone facing, and I stood within two yards of it for a minute or two but failed to catch it. I could see distinctly the bright reddish head, a black transverse occipital stripe, and two black stripes from the eye, the two lower ones typically seen in *radiatus*. As far as I am aware there is no other snake in the Western Himalayas with these distinctive marks.

The accompanying map shows the exact localities known to me from which it has been reported within Indian limits. Essentially a resident in the low country, it finds its way occasionally to considerable altitude. The Rev. C. Leigh obtained it at Kurseong which is about 5,000 feet, and I had one specimen in Shillong (Khasia Hills) at about 4,800 feet.

Its numerical strength may be judged from the following figures. In Burma chiefly around Rangoon Evans and I got 11 specimens out of 615 snakes of all kinds. In Upper Assam out of 615 snakes collected 41 were of this species, and in the Eastern Himalayas below Darjeeling (between 1,200 and 5,200 feet) out of 408 specimens there were 6 copper-headed rat-snakes. In Lower Bengal it is uncommon, if not actually rare.

*Lepidosis*—*Rostral*.—Touches 6 shields; the rostro-nasal sutures longest. *Internasals*.—Two; the suture between them half to two-thirds that between the præfrontal fellows, less than the internaso-præfrontals. *Præfrontals*.—Two; the suture between them greater than the præfronto-frontal; in contact with internasal, postnasal, loreal, præocular and supraocular. *Frontal*.—Touches 6 shields; the fronto-supraoculars about twice the fronto-parietals. *Supraoculars*.—Length subequal to frontal, breadth rather less than frontal along a line connecting the centre of the eyes. *Nasals*.—Two; touching 1st and 2nd supralabials. *Loreal*.—One. *Præocular*.—One. *Postoculars*.—Two. *Temporals*.—Two; the lower in contact with 3 supralabials, usually the 6th, 7th and 8th. *Supralabials*.—9 usually the 4th, 5th and 6th, or 5th and 6th only touching the eye (sometimes 8, with the 3rd, 4th and 5th, or 4th and 5th only touching the eye). *Infralabials*.—6 usually (sometimes 7) the 5th and 6th touching the posterior sublinguals; the 6th largest. *Sublinguals*.—Two pairs: subequal in size. *Costals*.—Two heads-lengths behind head 19, midbody 19, two heads-lengths before vent 17. The reduction to 17 occurs shortly behind midbody, and is due to the absorption of the 4th or 5th row above the ventrals. The vertebral row is not enlarged. Keels present. Apical facets present in pairs. *Ventrals*.—Angulate laterally; 224 to 250. *Anal* entire. *Subcaudals*.—Divided; 83 to 106.

*Anomalies*.—I have seen a small cuneate shield occasionally below the præocular, wedged between the 4th and 5th supralabials. There is a single temporal in rare examples.

*Dentition*—*Maxilla*.—21 teeth in an uninterrupted series, subequal in length, the last 3 stouter, and more compressed. *Palatine*.—11 to 12, subequal to maxillary. *Pterygoid*.—20 to 21, the anterior subequal to maxillary, reducing in size posteriorly. *Mandibular*.—25 to 27 subequal to maxillary, decreasing in size posteriorly.

*Plate*.—Our coloured figure leaves nothing to be desired.

Mr. Green's work is excellent. Many specimens, perhaps most, are a brighter shade of ruddy or copper than shown by him.

ZAMENIS DIADEMA (SCHLEGEL).

THE ROYAL SNAKE.

*History.*—Like most of our common Indian snakes this species is first referred to by Russell. He gave an excellent figure of it in his Second Volume published in 1801 taken from the larger of two specimens collected at Buchier (Bushire?). Geoffrey in his book on Egyptian snakes appears to be the next to describe and figure it in 1809. Since this most herpetologists treating of Asian snakes have referred to it under various titles. In 1858 Günther placed it in the genus *Zamenis*, and it has remained there since, but I think it is more than likely that it will sooner or later be removed, as it differs in many ways from the type of that genus.

*Nomenclature*—(a) *Scientific.*—The specific name given by Schlegel in 1837 refers to the quoit-like mark on the head of some specimens.

(b) *English.*—The Royal Snake seems to me fitting equivalent to the scientific title.

(c) *Vernacular.*—Russell gives “chunalee” as the native name in Persia (if I am correct in assuming that Buchier=Bushire). In Rajputana (Jodhpore) Mr. Colan tells me it is called “rajit-bānsār” or “rajitbānsi.”

*General characters.*—The head is a longish oval, well demarcated from the neck. The snout is rather long and moderately obtuse. A largish nostril occupies the upper two-thirds of the suture between the nasal shields. The eye is rather small, its pupil round, and the iris golden, especially towards the pupil. The gold is often tinged brownish, or reddish. The body is compressed, rather stout, and clumsy, and attenuates very noticeably into the neck, and more gradually towards the tail. The belly is slightly angulated each side. The tail is longish, and accounts for rather more than one-fifth, but less than one-fourth the total length.

*Colouration.*—All the young I have seen and from various localities including the Punjab, the N. W. Frontier, Chitral, and Baluchistan conform to one type. They are of a light brown or fawn colour, with three sets of largish, dark dorsal spots. The median may be rounded or rhomboidal in outline, or form short transverse bars and pass down the back from the nape well on to the tail. These marks alternate with the smaller spots of the lateral series. The head is light brown variously spotted, or mottled with darker marks. There is often a band between the eyes, and a quoit-like mark on the parietals (hence the name *diadema*). The latter may be connected with the former by a median stripe, or remain quite detached, or throw back from one to three short

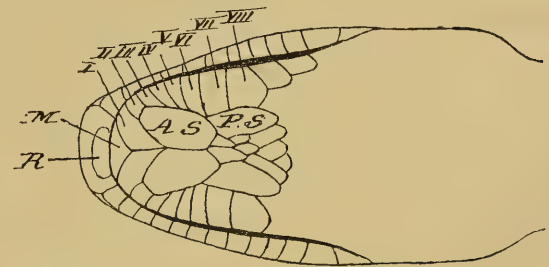
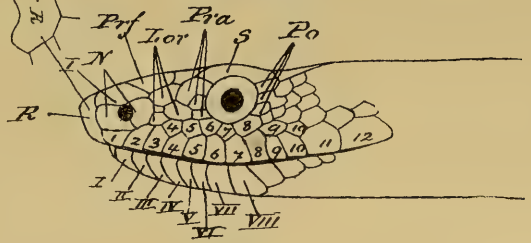
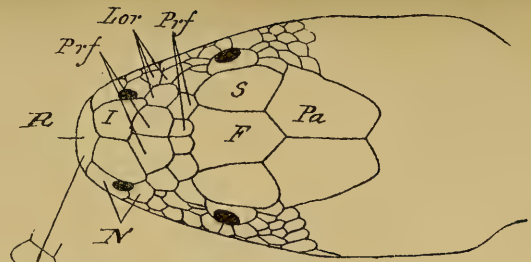
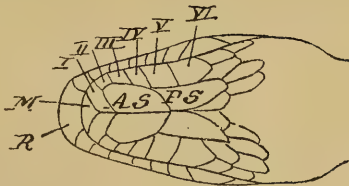
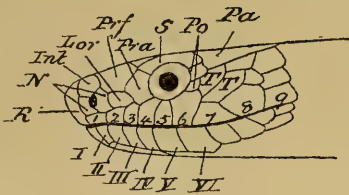
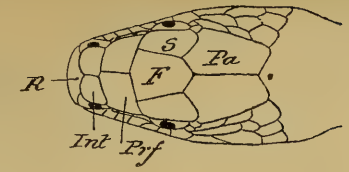
A POPULAR TREATISE ON THE COMMON  
INDIAN SNAKES.

EXPLANATION OF DIAGRAM.

*COLUBER RADIATUS* AND *ZAMENIS DIADEMA*.

A. S.	Anterior Sublinguals.
F.	Frontal.
Int.	Internasals.
Lor.	Loreals.
M.	Mental.
M. S.	Median Sublinguals.
N.	Nasals.
Pa.	Parietals.
Po.	Postoculars.
Pra.	Præoculars.
Prf.	Præfrontals.
P. S.	Posterior Sublinguals.
R.	Rostral.
S.	Supraocular.
Sl.	Supraloreal.
Su.	Sublingual.
T.	Temporals.
1 to 12	Supralabials.
I to VIII.	Infralabials.





*Coluber radiatus* ( $\frac{1}{1}$ )

*Zamenis diademata* (circa x 2)

stripes posteriorly. Many departures from this arrangement may be seen, either towards a confluence, or a disintegration of these marks, and in many specimens the interorbital and diadem marks are not or barely suggested. The belly has been white in all the specimens I have seen. Adults vary very much, but may be grouped thus.

*A. Variety typica.*—This may exactly agree with that seen in the young just referred to. The dorsal marks, and those on the head are often much obscured as age advances, and of course are rendered inconspicuous by impending desquamation. I have sometimes however seen the head marks including the quoit very distinct. Many of these specimens have heads tending towards or quite typical of the next variety. The belly is usually white, but often it is more or less suffused with pink especially in the middle line, and there are frequently greyish spots or mottlings at the sides of the ventrals.

It is a common form—perhaps the commonest—on the N. W. Frontier and in Chitral, and I have seen examples from Sind (Sukkur), Rajputana, the Punjab, and many from Baluchistan, and Aden Hinterland. It is very nicely figured in our Plate (figs. 4, 5 and 6).

*B. Variety atriceps* (Fischer).—This variety is usually much lighter than the last, the prevailing hue being buff, pinkish-buff or pale brownish, getting paler in the flanks which may be citron-yellow. A very few isolated scales in some specimens, many in others, are of a deep claret colour, and there is great irregularity in the disposition of these. Both head and neck are a brilliant strawberry-scarlet, or more often the scarlet on the neck merges into claret colour on the head, or the two hues may be sharply, and more or less irregularly defined. It is to these black headed specimens that Fischer gave the name *atriceps*. The belly is usually a uniform clear rose-pink relieved laterally by darkish mottling or spots. Colonel Light says it is the common variety in Bhuj (Cutch) and Blanford mentions it from Rajputana. I found it common in Delhi and the N. W. Frontier, and have seen specimens from Fatehgarh, Palanpur, Multan, Sind and Baluchistan. It is excellently shown in figures 1, 2 and 3 of our Plate.

In some specimens the dorsal spots as seen in variety *atriceps*, are grouped in such a way as to suggest more or less forcibly the shape and arrangement of the spots seen in variety *typica*, and such specimens are completely intermediate between the two forms. These specimens are unusual, and in all those I have seen the colouration of the head and the belly conforms much more closely to that of *atriceps* than *typica*. I have seen specimens from Baluchistan.

*C. Variety melanoides* (Wall).—In this form the prevailing colour

is black or blackish. In many if one looks closely, one can see darker marks of the same shape and pattern as those characteristic of *typica*. In this peculiarity one is forcibly reminded of the spots one can discern in the coat of a black leopard. In one or two rare cases I have not been able to discern these spots in the snake. I regard these examples as melanotic. The variety is unusual. I have seen specimens from Rajputana (Jodhpore) and Baluchistan.

*Identification.*—Nearly all our Indian snakes that have large head shields, possess a single pair of præfrontal shields (*Vide* the figure of *Coluber radiatus* in this paper).

The Royal Snake is one of the few exceptions to the rule, and in this species a double row of small scales replaces the pair of præfrontals seen in normal head shielding. If the scale rows in midbody number from 25 to 33 (27 to 31 usually) there can be no doubt as to the identity. A very nearly allied species is *Zamenis arenarius*, apparently a very rare snake only known from Rajputana and Sind. In this there is a single row of præfrontals numbering 3 or 4, and the rostral shield is very much larger than in *diadema*. Colonel Light remarks that *diadema* is frequently confused with Russell's viper (*Vipera russelli*) in Cutch. I too have more than once had specimens of variety *typica* sent to me as Russell's viper, the spots and their arrangement being somewhat similar in the two snakes, hence the importance of inspecting the lepidosis.

*Dimensions.*—The vast majority of adults range between 5 and 6 feet, but Colonel Light has met with several at Bhuj (Cutch) over 6 feet, and one measured 6 feet 7 inches. Mr. Millard received a specimen 6 feet 3 inches from Deesa, and the skin of one sent to our Society from Palanpur with the head deficient measured 7 feet  $4\frac{1}{2}$  inches.

*Disposition.*—I have very little knowledge of the Royal Snake in life. The few specimens I have encountered were in a great hurry to get away and my endeavours were mainly directed to securing the specimen at any cost, which meant that the specimen was killed forthwith. In Delhi a well-known snakeman always had one or more of these snakes in his possession, and they always allowed themselves to be handled without being disagreeable. Mr. Kinnear speaking of one in confinement in our Society's rooms, and recently received through Mr. Colan from Rajputana told me that it was very quiet to handle usually, but on one occasion when he opened the cage "it set up a tremendous hissing, expanding and contracting its body like a cobra." Mr. M. H. Oakes sent me a fine specimen of variety *atriceps* from Fatehgarh, U. P., which his wife found on a shelf among the stores in her godown. It sat up and hissed at her most menacingly and she killed it.



Distribution of *Zamenis diademata*.

..... Limits of distribution uncertain.

LOCALITIES REFERRED TO IN MAP.

- (1) Allahabad (I. M.), (2) Fatehgarh (F. W.), (3) Agra (B. M. and I. M.), (4) Rajputana, Bharatpore (I. M.), Jajpur (I. M.), Jodhpore (B. M.), Ajmer (B. M.), (5) Palampur (B. M.), Deesa (B. M.), (6) Gutch (B. M.), (7) Sind, Sukkur (F. W.), Kotri (B. M.), Karachi (B. M.), (8) Punjab, Delhi (I. M. and F. W.), Haranpur (I. M.), Chitral (I. M. and F. W.), Maltan (B. M.), Campbellpore (B. M.), Lahore (I. M.), (9) N. W. Frontier, Gilgit (I. M. and B. M.), Chitral (I. M. and F. W.), Malakand (F. W.), Bannu (F. W.), (10) Afghanistan (B. M.), (11) Baluchistan (I. M. and B. M.), (12) Persia (I. M. and B. M.), (13) Muscat (B. M.), (14) Aden Hinterland (B. M.), (15) Midax (B. M.), (16) Egypt (B. M.), (17) Tripoli (B. M.), (18) Tunisia (B. M.), (19) Algeria (B. M.)
- B. M. implies British Museum; Bo. M. the Society's Museum; I. M. Indian Museum; F. W. the author.



*Habits.*—I became familiar with the Royal Snake in Chitral. Here the country is very stony, and in clearing the ground for cultivation it is difficult to dispose of the stones. Many are utilised to build walls, which loosely put together encompass every khet. The surplus are thrown into heaps. These walls and heaps furnish attractive quarters for many snakes, but to this species, and the cobra specially. Being loose in their construction there are spacious crevices, and galleries running through them in every direction. The Royal Snake frequently hibernates among these stones, which even in the winter absorb sufficient heat from the sun to offer cosy accommodation. As the year advances, and the sun gets hotter, it is tempted to emerge for a sun bath, and on the least approach of danger precipitately disappears into its stony fastness. It is obviously on this account much more frequently seen than captured. In April 1899 when the Fort at Chakdara was being reconstructed, no fewer than four adult specimens of this snake and two cobras were dislodged while dismantling a few yards of an old masonry wall. One of these had recently fed on a rat, and it seems probable that even in winter retirement a chance meal can sometimes be secured. More than one specimen was killed in the crowded fort at Malakand, and I have known others invade habitations presumably in search of food.

*Food.*—I have on two occasions known rats eaten, and on one a mouse. Mr. Colan writing from Jodhpore (Rajputana) found one up in a tree shikaring a squirrel.

*Breeding.*—Though I have seen a large series of freshly killed as well as Museum specimens it is singular that I have never had one gravid female. I can find no mention of one in the literature of this snake. I feel pretty confident that the eggs (presuming that the species is oviparous) are deposited in the hot months, May, June and July, a season when I was at 10,000 ft. in the Hills. The few specimens sent to me during this period were either ♂♂, immature ♀♀ or specimens too putrified to examine. The length of the hatchling is not known. The smallest specimens I have had were 1 foot 6½ inches and 1 foot 7¼ inches in October or November, 1 foot 8½ inches in February, and 1 foot 4½ inches in March. It appears to grow about a foot between the 2nd and 3rd, and 3rd and 4th years of life, and a similar rate of growth in the first year seems to indicate that the hatchling is about fourteen to sixteen inches long. The sexes are very evenly balanced judging from my Chitral records. Of 24 sexed, 12 proved to be ♂♂, and 12 ♀♀. The ♂ claspers are beset with pedunculated cartilaginous processes. The anal glands secrete a material like custard in consistency and colour.

*Parasites.*—I found many specimens infested with small, oval-shaped, white, parasites which were very numerous in the peritoneum around the coils of the intestine. These were submit-

ted to Professor A. E. Shipley who pronounced them protozoa, probably *Sarcosporidia*, but possibly *myxosporidia*. Among Ectozoa I have seen a tick presumably of the genus *Aponomma*.

*Legends*.—Mr. Colan tells me that in Rajputana this snake is believed by the natives to be the female cobra.

*Distribution*.—It occurs in one or other of its varied forms from the United Provinces of India, through Rajputana, Cutch and Sind, the Punjab, the N. W. Frontier of India as far North as Chitral, Baluchistan, Afghanistan, Persia, Arabia, to Northern Africa as far West as Algeria. Its Eastern limit in India is roughly the Ganges. (Allahabad, Fatehgarh.) Its Southern limit in India is roughly a line drawn\* from Allahabad to the South of Cutch. The exact localities known to me are shown in the accompanying map.

*Lepidosis*.—*Rostral*.—Touches 6 shields, the rostro-nasal sutures subequal to, or greater than the rostro-internasal. *Internasals*.—A pair, the suture between them half or less than half its distance to the frontal; in contact with the uppermost loreal. *Præfrontals*.—Usually in two rows (rarely one or three); from two to three usually in the anterior row, and from three to five in the posterior. *Frontal*.—Touches from 8 to 12 shields; the fronto-supraocular sutures about twice as long as the fronto-parietals. *Supraoculars*.—Length subequal to the frontal; breadth about three-quarters the frontal along a line connecting the centres of the eyes. *Nasals*.—Two, in contact with the 1st and 2nd labials. *Loreal*.—3 to 6. *Præoculars*.—Two or three. *Postoculars*.—Two to three. *Supralabials*.—10 to 13; the 3rd to the 9th or 10th may be divided into an upper and a lower part; usually the upper parts of three, the 5th, 6th and 7th, or the 6th, 7th and 8th, touch the eye†; the last longest. *Infralabials*.—7 or 8, three, usually the 5th, 6th and 7th touch the posterior sublinguals. *Sublinguals*.—Two pairs, the anterior longer, the posterior quite separated by small scales. *Costals*.—Two headlengths behind the head, usually 4 more than in midbody; in midbody usually 29 to 31 (rarely 25 to 33); two headlengths before the vent 19 to 21 (rarely 17). The rows increase anteriorly by the division of one of the two uppermost rows (not including the vertebral). They decrease posteriorly by a succession of steps, 5 usually (sometimes 4 or 6). In one of the first three steps, all of which occur close together, the 3rd or the 4th row above the ventrals is absorbed, but in all the other steps (whether 4 or 6) it is one of the two uppermost rows (not including the vertebral) that is absorbed. The vertebrae are not enlarged. Keels are

\* Murray records one from Mahim (Bombay). It is quite possible for such a snake to be transported in cargo from another Port, say Karachi, where it is known to be common.

† Those who regard the upper parts of these shields as suboculars say no supralabials touch the eye.

present, and apical facets in pairs. *Ventrals*.—210 to 278, angulate. *Anal*.—Entire. *Subcaudals*—65 to 110 divided.

*Dentition*.—(From four specimens in my collection from Malakand, Chitral, Multan, and Delhi?). *Maxillary*.—16 to 19 uninterrupted, subequal, or the posterior perhaps progressively decreasing in length. *Palatine*.—9 to 10, subequal, and about as long as the maxillary. *Pterygoid*.—15 to 19, slightly decreasing in length anteriorly and posteriorly. *Mandibular*.—20 to 22, the 3rd to about the 7th or 9th subequal, the rest progressively reducing in length posteriorly and anteriorly. The intracranial lining membrane is black, and this colour is more or less visible through the calvarium.

Our Plate is excellent.

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